Integrated Tick Management Plan:

Preventing Diseases Spread by Ticks
2018

RISK STATEMENT AND DISCLAIMER

Overall, the risk of contracting Lyme disease or other tick borne diseases in the City of Hamilton is low. Tick borne disease transmission is dependent on a number of factors. Residents and visitors who report a tick bite and are concerned about possible disease transmission are encouraged to discuss their exposure with a physician.

There is a probability of encountering blacklegged ticks almost anywhere in the City of Hamilton (and in other areas of Ontario) as the ticks can spread by migratory birds, pets or other animals. The best way to prevent disease transmission is to prevent a tick bite.

What are ticks?

Ticks are small insects that are closely related to spiders and mites. Ticks feed on the blood of animals and people in order to survive. Over the past few years, ticks have become an increasing concern due to the ability of some tick species to transmit diseases.

Know your ticks

The most common tick found in Hamilton is the American dog tick (also called a wood tick). The American dog tick is not associated with disease in our geographic area—they are considered to be a nuisance pest.

Also, found in our area is the blacklegged tick (or deer tick). This type of tick can make you sick with Lyme disease and possibly other tick borne disease if you end up being bitten by an infected tick.

Other types of ticks can be encountered locally or while travelling to other areas of Ontario. Its important to protect yourself, family and pets from tick bites by removing ticks promptly and doing a tick check when visiting natural areas with tall grasses or wooded areas.

Blacklegged ticks

Blacklegged ticks (deer ticks) are found in areas with tall grasses and brushy forested areas. A tick bite from an infected blacklegged tick can make you sick if the tick feeds for more than 24 hours. It is important to know what these ticks look like and to remove them quickly.

Female Blacklegged ticks have reddish-orange abdomen, with a black shield at the top of their heads. The male blacklegged ticks are black or brown in colour (no red markings). Both the male and female blacklegged ticks have black legs.

Adult ticks are active during much of the year and the greatest risk of a tick bite is during the spring, summer and fall. When temperatures drop below freezing, the ticks no longer active. Adults are about the size of a sesame seed and nymphs are roughly the size of a poppy seed.

Hamilton is now an estimated Lyme disease risk area. This means that there is a greater chance of encountering a blacklegged tick when spending time in tall grassy or wooded areas.

The overall risk of a human infection from Lyme disease in Hamilton remains low.

Blacklegged Ticks

Female Blacklegged ticks measure about 2.6 mm in length with a reddish-orange coloured abdomen. Females have a black shield at the top of their heads. Their legs are black in colour.

Male blacklegged ticks are slightly smaller than females. The male dog tick has blackleg ticks and are black or brown in color (no red markings).

American Dog ticks

American Dog

Female American dog ticks measure about 5-6 mm in length with a reddish/brown colour. Towards the top of the head, is the scutum, this area is creamy white mark-

Male American dog ticks are smaller than females and measure about 3mm in length. The male dog tick has creamy white or gray mark-

In Hamilton and surrounding areas, the American dog tick is the most commonly found tick. Over the past few years, the American dog tick is most commonly submitted tic k to the city's surveillance program.

The female American dog tick is about 5-6 mm in length and has creamy white marking behind the head. The male American dog tick is smaller and measures around 3.6 mm in length; the male dog tick has creamy white or gray markings over its entire back. This tick is commonly found in open fields, tall grassy areas or other natural areas.

American dog ticks do not transmit Lyme disease.

American dog ticks are not implicated in disease transmission and are considered a nuisance tick. Elsewhere in North America they can be associated with the spread of Rocky Mountain spotted fever, tularemia and tick paralysis.

To learn more about other Lyme disease risk areas in Ontario, please visit Public Health Ontario: www.publichealthontario.ca

Ticks can spread diseases…

Blacklegged ticks can spread Lyme disease, babesiosis and anaplasmosis. Not all tick bites will result in illness, for a person to get sick with a tick borne illness the tick has to be infected and in some cases feeding for

Lyme disease is an illness caused by a bacteria called, *Borellia burgdorferi*. This bacterium is spread through the bite of an infected tick. Signs and symptoms usually occur one to two weeks after a tick bite, but can begin as early as 3 days to as long as 30 days after a bite. The first sign of infection is usually a red rash called erythema migrans that begins at the site of the tick bite. The rash gradually expands over several days, and gives the appearance of a bull's-eye — a spot with a ring around it. However, not everyone develop this rash. Patients may also experience fever, fatigue, chills, headaches, muscle and joint aches, and swollen lymph nodes. If left untreated, more severe symptoms can develop.

Babesiosis is caused by a parasite called *Babesia microti*. Most people who are infected, however, do not display any symptoms. The disease is more severe in the elderly and in people with suppressed immune systems and those who have had their spleen removed. The symptoms of babesiosis include fever, chills, sweating, muscle pain, and fatigue. They typically occur after an incubation period of one to four weeks, and can last several weeks.

The symptoms of **human granulocytic anaplasmosis** (HGA) can vary, but most patients have a moderately severe fever and exhibit symptoms such as headache, muscle pain, and malaise. These symptoms will typically appear after an incubation period of one week after tick exposure. Anaplasmosis can be fatal in some cases if left untreated.

Do a daily visual tick when in visiting or working in wooded or tall grassy areas! Remember to check WHAT! Waist, Hairline, Armpits and Toes. Don't forget to also check your groin area and behind your knees.

Ticks can spread diseases...cont'd

In Ontario, the American dog tick is not implicated in disease transmission and is considered a nuisance tick. However, due to increasing travel to areas endemic for ticks and other tick borne disease, the information below summarizes diseases often transmitted by dog ticks but are of low or no significance locally.

Rocky Mountain spotted fever is caused by the bacteria *Rickettsia rickettsii.* It can be very difficult to diagnose in its early stages, even by experienced physicians who are familiar with the disease. People infected with *R. rickettsii* generally develop symptoms 2 to 14 days after a tick bite, and the symptoms are generally severe enough to cause them to visit a physician in the first week of their illness. Initially, Rocky Mountain spotted fever may resemble a variety of other infectious and non- infectious diseases. Other symptoms may include: (initially) nausea, vomiting, muscle pain, and lack of appetite; and (as the disease progresses) abdominal pain, joint pain, and diarrhea.

Tularemia is rare in Canada. There are approximately 200 cases reported annually in the U.S. Tularemia or Rabbit Fever is caused by an infection of *Francisella tularansis*. Symptoms usually appear 3 to 10 days after exposure, it can take as long as 14 days. It affects both humans and animals, and is typically found in wild animals such as rabbits, muskrats, and beavers. It is also known as Rabbit Fever because hunters can get the disease from contact with infected rabbits. Symptoms of tularemia can include: sudden fever, chills, headaches, muscle aches, joint pain, dry cough, progressive weakness and pneumonia. Persons with pneumonia can cough up blood and have trouble breathing. Other symptoms of tularemia depend

Tick paralysis is caused by a toxin found a tick's saliva. Symptoms include rapid onset flaccid paralysis beginning the arms and legs and progressing to other body parts. Paralysis subsides once the tick is removed. Symptom happens typically after 4-7 days following the feeding of a female tick.

How to keep yourself, family and pets tick free?

Preventing tick bites, is the first step to avoid getting sick with Lyme disease and other tick borne diseases. Protect yourself and family with these 5 tick bite prevention tips:

1	**Know your ticks & where to expect them:** in Ontario, the blacklegged tick is the only known tick that can transmit the bacteria that causes Lyme disease. Blacklegged ticks live in woodlands, tall grasses and bushes.
2	**Prevent tick bites:** Wear light-coloured clothing outdoors. It makes ticks easier to spot; Wear long pants and a long sleeved shirt; Wear socks and closed toe shoes. Tuck your pants into your socks; and use an insect repellent containing DEET or Icaridin.
3	**Do a tick check:** after spending time outdoors in wooded or bushy areas, carefully check your full body and head for attached ticks; check your children and pets for ticks and shower to remove ticks before they become attached.
4	**Remove ticks quickly using the correct methods:** If you find a tick on your body, remove it as soon as possible by using proper techniques such as using tweezers to pull the tick gently but firmly straight up so that the full head is also removed
5	**Know the signs & symptoms:** Symptoms of Lyme disease usually start one to two weeks after getting a tick bite, but can begin as early as three days to as long as four weeks after a tick bite. Signs & symptoms include a circular red rash that slowly expands around the bite, known as a “bulls-eye”, skin rash, fatigue, stiff neck, joint pain, and headache .

Tips to prevent ticks for companion animals...

It is important to remember that people cannot catch tick-borne diseases such as, Lyme disease from infected dogs or cats, but the same ticks that bite your pets can cause these illnesses and others if they bite humans.

To reduce the chances that a tick will transmit disease to you or pets:

- Check your pets for ticks daily, especially after they spend time outdoors or travel to different counties or states.
- If you find a tick on your dog or cat, remove it promptly or ask your veterinarian for assistance.
- Ask your veterinarian to conduct a tick check at each exam and discuss common tick-borne diseases you should be aware of in your area.
- Reduce host animal habitat in your yard (i.e. remove leaf litter, clear tall grasses and remove brush around homes and lawn edges).
- Follow leashing by-laws when visiting parks

Never use products labeled for dogs or cats. When using a new repellent product for the first time on your pets, follow the direction provided on the package for the safe use of these products and monitor your pets for any reactions. Consult with your vet if you have any questions or concerns and remember to keep the product package.

Talk to your veterinarian about responsible and effective use of flea and tick prevention products and any questions or concerns you may have about the safe use of these products.

What should you do if you find a tick on your self, family member or pet?

When spending time outdoors and carrying out activities in areas where ticks might be present it is important to carry out a tick check. A tick check is done by looking for ticks that might have attached to you or your clothing. If you find a tick on your body, remove the tick immediately to prevent infection. If a tick is attached to your skin for less than 24 hours, your chance of getting Lyme disease is small.

Check these parts of you body and child's body for ticks:

- Under the arms
- In and around the ears
- Inside belly button
- Back of the knees
- In and around the hair
- Between the legs
- Around the waist.

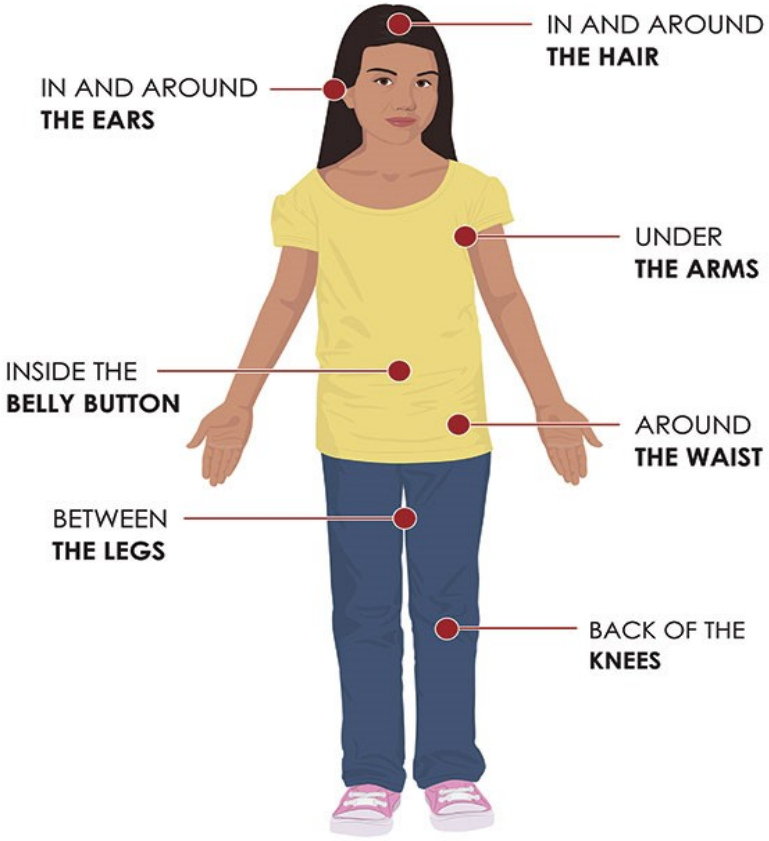


Image source: Centers for Disease and Control (US CDC)

Record the date you removed the tick using a planner or calendar, and watch for any signs or symptoms of illness. Seek medical attention if you have symptoms of illness following a tick bite.

How to remove a tick safely

Prompt removal of ticks is very important because it lessens the chance of disease transmission from the tick to you, a family member or a pet.

Remove the tick carefully with a pair of clean tweezers by grasping the tick as close to your skin as possible.

Pull it straight out, gently but firmly. Do not twist or jerk the tick as this action may cause the mouth parts to break off and remain in your skin. If this happens, remove the mouth parts as you would a splinter or seek medical attention. After you remove the tick, clean the bite area with soap and water.

Image source: Ontario Ministry of Health and Long Term Care (MOHLTC)

When removing a tick, your goal is to remove the tick quickly as possible and intact. Do not do the following:

- Burn the tick off using matches or a lighter
- Smother the tick using Vaseline/ petroleum jelly, baby oil or alcohol.
- Do not squeeze it; this could allow bacteria that causes Lyme disease to get into your body

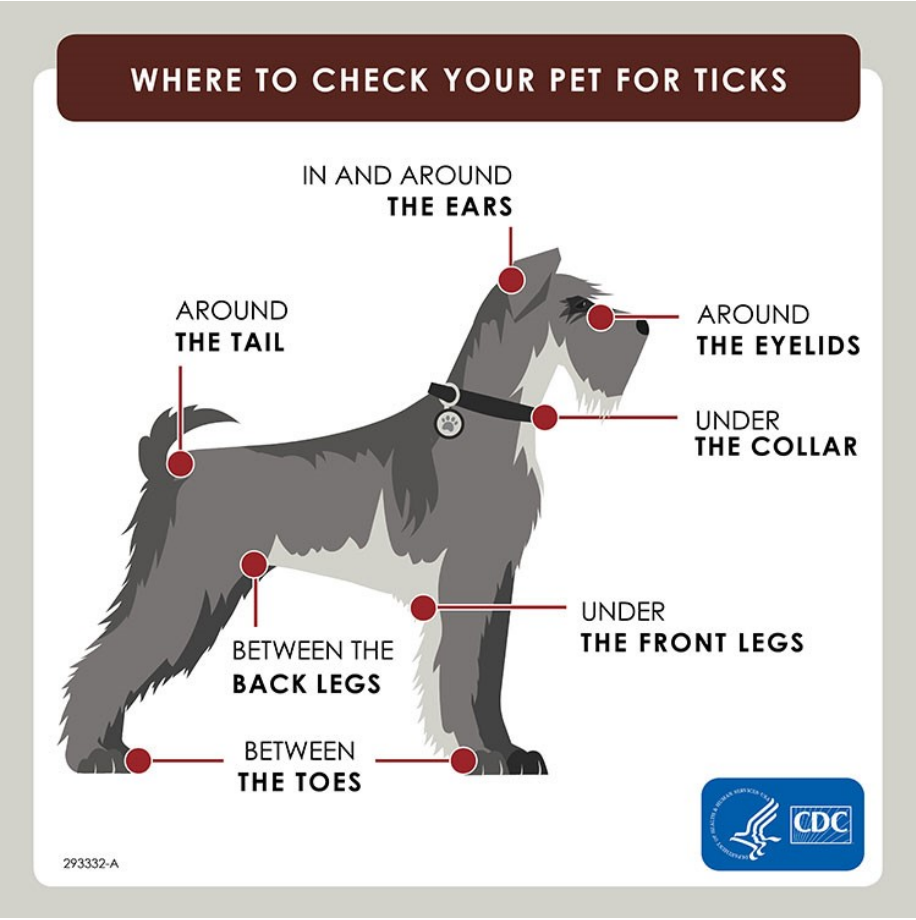
How to remove a tick from a pet?

Prompt removal of ticks is very important because it lessens the chance of disease transmission from the tick to your pet.

- Remove ticks by carefully using clean tweezers to firmly grip the tick as close to the pet's skin as possible and gently and steadily pulling the tick free without twisting it or crushing the tick during removal.

- Crushing, twisting or jerking the tick out of the skin while its head is still buried could result in leaving the tick's mouth parts in your pet's skin; this can cause a reaction and may become infected.

- Do not attempt to smother the tick with alcohol or petroleum jelly, or apply a lighter to it, as this may cause the tick to regurgitate saliva into the wound and increase the risk of disease if the tick is infected.



Keeping your property tick free:

Around a private property, the best way to reduce the presence of t ticks is to make the habitat unattractive, inhospitable, and/or inaccessible to host animals. You can do so by using an integrated tick management practices that include:

- ☐ Frequent mowing, trimming back of overhanging shrubs or tree branches, and removing leaf litter, particularly at the lawn-forest interface and in high use areas.
- ☐ Remove or move bird feeders away from the house. Feeders create animal concentrations. In addition to feeding birds bird feeders also provide food for many of the small mammal hosts of immature ticks as well as deer.
- ☐ The removal of woodpiles, brush piles, stumps and fallen trees, and other harborages will tend to keep rodent populations at a minimum.
- ☐ The use of deer resistant ornamental vegetation, in combination with these other techniques, may discourage deer from entering residential properties and decrease browse damage.
- ☐ Use of dense groundcover plantings should be discouraged, since they provide ideal tick habitat and cover for rodent hosts.
- ☐ Remove or move bird feeders away from the house. In addition to feeding birds, bird feeders also provide food for many of the small mammal hosts for immature ticks.
- ☐ Habitat management can include host exclusion. Studies have shown that installation of deer fencing dramatically reduced blacklegged tick abundance within the protected property.
- ☐ Ensure that your pets do not wander away from your property.
- ☐ Lastly, an application of an acaricide (a pesticide that kills ticks and mites) may reduce the number of ticks on your property. Consult with a licensed pest control operator for advice on how to control ticks using acaricides.

City of Hamilton is a Lyme disease risk area. Blacklegged ticks can transmit Lyme disease. That's why it's important to know your ticks and do a tick check when you're in a wooded area.

Discover how you can keep your family and pets safe at
www.hamilton.ca/ticks
or call 905.546.2489

Hamilton